CTEH®
THE SCIENCE OF READY℠

2nd 80's Fire

Deer Park, TX

Air Monitoring and Sampling Endpoint Plan

Version 1.0

Prepared on Behalf of:

Intercontinental Terminals Company

Prepared By:

CTEH, LLC

5120 Northshore Drive

North Little Rock, AR 72118

501-801-8500

June 10, 2019

	Name/Organization	Signature	Date Signed
Prepared by:	Scott Malm, Ph.D.		6/10/2019
Submitted by:	Mike Gaudet/ITC		11 Jun 19
Approved by:			11 Jun 19
Approved by:			
Approved by:			
Approved by:			

90016034

1. Introduction

This Endpoint Plan was prepared by CTEH, LLC. (CTEH) to establish the air monitoring strategy for the 2nd 80's Fire response following deconstruction and removal of the pyrolysis gasoline (pygas) tanks (80-7, 80-10, 80-14, and 80-15). At this time, the pygas tanks have been successfully removed. Pygas contains significant concentrations of benzene as a component; as a result, completion of pygas tank removal represents a significant endpoint in response activities by eliminating the primary source of benzene emissions. The following section identifies the rationale for focusing air monitoring efforts around the 2nd 80's tank farm following removal of the pygas tanks.

2. Air Monitoring and Sampling Strategy

This plan outlines the focus of air monitoring and air sampling resources for ongoing deconstruction activities within the tank farm:

- Work area real-time air monitoring efforts will continue within the 2nd 80's tank farm. Air monitors will continue to utilize instrumentation capable of detecting benzene and butadiene in the ppb range (benzene: UltraRAE and Drager X-pid 9000/9500, butadiene: Drager X-pid 9000/9500) as outlined in the Work Area Sampling and Analysis Plan (SAP) (**Appendix A**).
- Analytical analysis of personal monitoring badges will continue for workers in and around the impacted tank farm
- Fixed real-time AreaRAE stations will be maintained around the perimeter of the tank farm (**Appendix B**).
- If a perimeter AreaRAE station near Independence Parkway detects 2 ppm VOCs or greater which is sustained for 5 minutes, a CTEH air monitor will take benzene readings at that location as outlined in the Independence Parkway Reopening Plan (**Appendix C**).
- Real-time air monitoring will be discontinued along Independence Parkway.
- Real-time air monitoring will be discontinued in the community.
- Analytical air sampling stations will be discontinued. Analysis of all previously deployed analytical air sampling stations in both community and industrial areas will be completed.

CTEH will redeploy additional air monitoring and sampling resources should conditions require.

3. Previous Plans Affected by The Current Plan

This plan supersedes or affects the following UC-approved plans:

- Community Monitoring section of the Air SAP
- Independence Parkway Reopening Plan
- Analytical Air Sampling Plan

Attachment A

Signed CTEH Work Area SAP

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ITC Tank Fire

Deer Park, TX

Work Area

Air Sampling and Analysis Plan (SAP)

Version 1.2

Prepared on Behalf of:

Intercontinental Terminals Company

March 26, 2019

	Name/Organization	Signature	Date Signed
Prepared by:	Christopher Kuhlman, PhD, DABT, CIH		3/26/2019
Reviewed by:	Mike Berg, PhD, CIH, CSP		3/26/2019
Submitted by:	Mike Gaudet		3/26/19
Approved by:	Kendra Bernhagen, TCEQ	K Bernhagen	3/26/19
Approved by:	Matt Tuel, EPA	Matt Tuel	3/26/19
Approved by:	David W. Wade Harris Co Homeland Sec.	David W Wade	3/26/19
Approved by:	Brent Weber		3/26/19
Approved by:			

Air Monitoring and Sampling Strategy

CTEH®, LLC is focusing on the mixtures, chemicals, and indicators of flammability chosen below because they are among the most important and readily monitored hazards of burning petroleum products and/or blends including: pyrolysis gasoline, naphtha, gasoline blend stock, toluene, xylene, and lube oil products. In theory, complete combustion of a hydrocarbon fuel would yield gaseous carbon dioxide (CO_2) and water; however, in situations where incomplete combustion occurs the composition of visible soot will contain both a particulate and gaseous component which may include the parent compounds (or mixtures) along with any combustion by-products formed. As such, this Sampling and Analysis Plan (SAP) outlines the analytes and methodologies to be utilized by CTEH® to monitor the air quality within the Work Area as defined herein. Due to the ever-changing nature of emergency events, monitoring and/or sampling for some of the chemicals described within this document may be conducted on a periodic basis or even discontinued as initial monitoring and/or sampling results indicate that these chemicals and indicators do not pose a concern to worker health. Combustion products will not be monitored in the absence of a fire.

The purpose of this SAP is to characterize the air quality within the several zones in which occupational exposure limits are relevant under this particular scenario. These zones are identified in **Attachment 1** and include the following: The Impacted Tank Farm, the Restricted Community, the Industrial Areas, and each of the individual Divisions as outlined. Many of these areas have limited public access. Air monitoring readings collected as part of this plan occur at breathing-zone height. Particularly within the many of these defined areas, CTEH® may be requested to record readings which are not representative of an individual's breathing zone (e.g., container head space, ground level, etc.). Under these circumstances, such readings will be recorded under the sub-category of Site Assessment. As Site Assessment readings are often conducted for operational purposes, no action levels for Site Assessment are utilized. Should resultant air monitoring efforts demonstrate the potential for exposure to benzene above applicable exposure guidelines, results are directly communicated to the interested party. A separate worker exposure monitoring plan will be prepared for the purposes of collecting personal air samples on applicable and representative work positions.

CTEH® may conduct both handheld real-time air monitoring in addition to utilizing radio-telemetering instruments. Real-time hand-held instruments may be recorded in a variety of areas based on levels of activity, proximity to the release, and site conditions. Such readings may be recorded based upon an assessment made by field personnel at locations representative of worker populations. If applicable, notes will be made as to the level of respiratory protection, if any, donned by the workers in the vicinity. Radio-telemetering monitoring may be performed using RAESystems AreaRAE Instruments posited at fixed locations within the facility. If utilized, these units will be monitored from a centralized location for the purpose of monitoring the site for situational awareness and changing site conditions. Efforts will be made to verify any sustained detections above specified action levels with a hand-held instrument.

CTEH Site-Specific Action Levels

CTEH site-specific action levels will be employed within the identified work areas to provide information for corrective action to limit potential exposures. These values do not replace worker exposure standards or guidelines but are intended to represent a concentration limit that triggers a course of action to better address worker health. Action level exceedances will be communicated to Site Management and the CTEH Project Technical Director by the CTEH Project Manager (PM). Exceedances of action levels will be used to guide allocation of monitoring personnel and determine potential sampling locations to collect additional data.

Work Area Air Monitoring

Objective: Report air levels before they reach those requiring respiratory protection

Analyte	Action Level	Action to be Taken	Basis	Instrument	Detection Limit	Notes	Correction Factor
VOCs	1 ppm 5 min.	Assess for the presence of benzene/toluene/hexane, Report reading to PM	To avoid over exposure to benzene/toluene/hexane	MultiRAE PID AreaRAE PID	0.1 ppm	Range: 1 – 5,000 ppm	NA
Benzene*	0.5 ppm 5 minutes	Exit Area or don air purifying respirator; report reading to PM	OSHA PEL Action level/ACGIH TLV-TWA	UltraRAE PID	0.025 ppm	UltraRAE - Change SEP tube frequently	NA
				Gastec tube #121L	0.05 ppm	Range: 0.1 – 65 ppm Volume: Variable	Var.
				Dräger X-pid 9000/9500	0.02 ppm	0.02 – 25 ppm	NA
Benzene*	5 ppm Sustained	Exit Area, move upwind; report reading to PM	Max Use Concentration for half-mask APR (APF = 10)	UltraRAE PID	0.025 ppm	UltraRAE - Change SEP tube frequently	NA
				Gastec tube #121L	0.05 ppm	Range: 0.1 – 65 ppm Volume: Variable	Var.
				Dräger X-pid 9000/9500	0.02 ppm	Range: 0.02 – 25 ppm	NA
Benzene*	25 ppm	Exit Area, move upwind; report reading to PM	Max Use Concentration for full-face APR (APF = 50)	UltraRAE PID	0.025 ppm	UltraRAE - Change SEP tube frequently	NA

Analyte	Action Level	Action to be Taken	Basis	Instrument	Detection Limit	Notes	Correction Factor
	Sustained			Gastec tube #121L	0.05 ppm	Range: 0.1 – 65 ppm Volume: Variable	Var.
				Dräger X-pid 9000/9500	0.02 ppm	Range: 0.02 – 25 ppm	NA
1,3-Butadiene*	0.5 ppm 5 min.	Exit Area or don air purifying respirator; report reading to PM	OSHA PEL Action level	Dräger X-pid 9000/9500	0.07 ppm	Range: 0.07 – 25 ppm	NA
1,3-Butadiene*	5 ppm Sustained	Exit Area, move upwind; report reading to PM	Max Use Concentration for half-mask APR (APF = 10)	Dräger X-pid 9000/9500	0.07 ppm	Range: 0.07 – 25 ppm	NA
1,3-Butadiene*	25 ppm Sustained	Exit Area, move upwind; report reading to PM	Max Use Concentration for full-face APR (APF = 50)	Dräger X-pid 9000/9500	0.07 ppm	Range: 0.07 – 25 ppm	NA
Hexane*	50 ppm	Sample only as requested, Report reading to PM	ACGIH TLV (n-hexane)	Gastec tube #102L	1 ppm	Range: 4 – 1,200 ppm Volume: Variable	Var.
Naphtha*	300 ppm	Sample only as requested, Report reading to PM	ACGIH TLV (Gasoline)	Gastec tube #106	0.1 ppm	Range: 0.5 – 28 ppm Volume: Variable	Var.
Ethyl Benzene*	20 ppm	Sample only as requested, Report reading to PM	ACGIH TLV (Ethyl Benzene)	Cross-Sensitive with Gastec Tubes No. 122L & No. 123L.			
Xylene*	100 ppm	Sample only as requested, Report reading to PM	ACGIH TLV (Xylene)	Gastec Tube #123L	1 ppm	Range: 2 – 200 ppm Volume: Variable	Var.
Toluene*	20 ppm	Sample only as requested, Report reading to PM	ACGIH TLV (Toluene)	Gastec tube #122L	0.5 ppm	Range: 1 – 100 ppm Volume: Variable	Var.
Phenol*	5 ppm	Sample only as requested, report reading to PM	ACGIH TLV (Phenol)/OSHA PEL	Gastec tube #60	0.1 ppm	Range: 0.4 – 187 ppm Volume: Variable	Var.
NO_2**	0.2 ppm	Sample if workers near smoke/combustion products; Exit Area, move upwind; report reading to PM	ACGIH TLV (NO_2)	MultiRAE Sensor	0.1 ppm	Range: 0 -20 ppm	N/A
				Gastec tube #9L	0.1 ppm	Range: 0.5 – 125 ppm Volume: Var.	Var.
SO_2**	0.2 ppm	Sample if workers near	TLV-STEL (SO2)	MultiRAE Sensor	0.1 ppm	Range: 0 – 20 ppm	NA

Analyte	Action Level	Action to be Taken	Basis	Instrument	Detection Limit	Notes	Correction Factor
		smoke/combustion products; Exit Area, move upwind; report reading to PM		Gastec tube #5Lb	0.05 ppm	Range: 0.05 – 10 ppm Volume: Variable	Var.
Particulate Matter ($PM_{2.5}$ or PM_{10})**	351 µg/m³ 5 min	Report reading to PM	Wildfire Smoke Guidelines for 1 hr. avg. upper-bound breakpoint for unhealthy AQI	SidePak AM510	0.001 mg/m³	$PM_{2.5}$ impactor – 50% cut-off at 2.5 micron PM_{10} impactor – 50% cut-off at 10 micron	NA
PM2.5 or PM10**	200 µg/m³ 8 hrs	Report reading to PM	See above - 8 hr. guideline	SidePak AM510	0.001 mg/m³	See above	NA

* Note that each of these analytes are detectible on the MultiRAE PID with the following correction factors: Benzene (0.47), ethylbenzene (0.47), toluene (0.45), xylene (0.39), hexane (0.34), 1,3 butadiene (0.6), phenol (1.0). If workers are actively working around known product, the VOC action level may be modified for that specific chemical. **To be used if reignition of the fire occurs. Monitoring for combustion products may be discontinued when the fire is extinguished

Flammability								
Analyte	Action Level	Corrected Value	Action to be Taken	Basis	Instrument	Detection Limit	Notes	Correction Factor
LEL	1 %	--	Notify PM	Changing Site Conditions	MultiRAE Sensor AreaRAE Sensor	1 %	Measuring range: 1 – 100%	2.6
LEL	4.7 %	10%	Exit area and Notify PM	Basis – Benzene	MultiRAE Sensor AreaRAE Sensor	1 %	Measuring range: 1 – 100%	2.1
LEL	3.8 %	10 %	Exit area and Notify PM	Basis - Gasoline	MultiRAE Sensor AreaRAE Sensor	1 %	Measuring range: 1 – 100%	2.6
LEL	3.4 %	10 %	Exit area and Notify PM	Basis - Xylene	MultiRAE Sensor AreaRAE Sensor	1 %	Measuring range: 1 – 100%	2.9
LEL	4.1 %	10 %	Exit area and Notify PM	Basis - Toluene	MultiRAE Sensor AreaRAE Sensor	1 %	Measuring range: 1 – 100%	2.4
VOC	10 % LEL for Pygas as a volatile atmospheric composition is 2,200 ppm VOCs							

General Information on Procedures (Assessment Techniques) Used

Procedure	Description
Guardian Network	A Guardian network may be established with AreaRAEs equipped with electrochemical sensors at locations around the work zone perimeter. The AreaRAEs will be telemetering instantaneous data at 15-second intervals to a computer console. MultiRAE Pros may also be used in the network. The data will be visible in real-time at the computer console and will be monitored 24 hours per day by CTEH personnel.
Real-Time Handheld Survey	CTEH staff members may utilize handheld instruments (e.g. MultiRAE Plus; ppbRAE, Gastec colorimetric detector tubes, etc.) to measure airborne chemical concentrations. CTEH will use these handheld instruments primarily to monitor the ambient air quality at breathing zone level. Additionally, measurements may be made at grade level, as well as in elevated workspaces, as indicated by chemical properties or site conditions. CTEH may also use these techniques to verify detections observed by the AreaRAE network.
Analytical sampling	Analytical sampling may be used to validate the fixed and handheld real-time monitoring data, or to provide data beyond the scope of the real-time instruments. Analytical samples may be collected as whole air samples in evacuated canisters or on specific collection media, and sent to an off-site laboratory for further chemical analysis.

Quality Assurance/Quality Control Procedures

Method	Procedure
Real-Time	Real-time instruments may be calibrated in excess of the manufacturer's recommendations. At a minimum whenever indicated by site conditions or instrument readings. Co-located sampling for analytical analysis may be conducted, if necessary, to assess accuracy and precision in the field. Lot numbers and expiration dates may be recorded with use of Gastec colorimetric tubes.
Analytical	Chain of custody documents may be completed for each sample. Level IV data validation may be performed on the first sample group analyzed. Level II data validation may be performed on 20% of all samples. Level IV data validation may be performed on 10% of all samples.
Reporting	Daily data summaries may be provided for informational purposes using data that have not undergone complete QA/QC. Comprehensive reports of real-time and/or analytical data may be generated following QA/QC and may be delivered 60 days following receipt of validated results, if applicable.

Glossary

Term	Definition
Sustained	Instrument reading above the action level continuously for the listed time period.
Excursion Limit	Whenever a reading exceeds an ACGIH® TLV by 5 times (if the chemical does not have a STEL- or Ceiling-based action level), exit the area and notify the PM
Breathing zone	The area within an approximate 10-inch radius of an individual's nose and mouth.
Ambient Air	That portion of the atmosphere (indoor or outdoor) to which workers and the general public have access.

Change from version 1.1 to 1.2

In the section titled: Work Area Air Monitoring – Added phenol as an analyte

	Name/Organization	Signature	Date Signed
Prepared by:	Scott Malm PhD / CTEH		3/26/19
Review by:	Chris Kuhlman / CTEH		3/26/19
Approved by:	Matthew Loesel, EPA		3/26/19
Approved by:	Kendra Bernhagen TCEQ	K Bernhagen	3/26/19
Approved by:	David W. Wade		3/26/19
Approved by:	Brent Weber		3/26/19

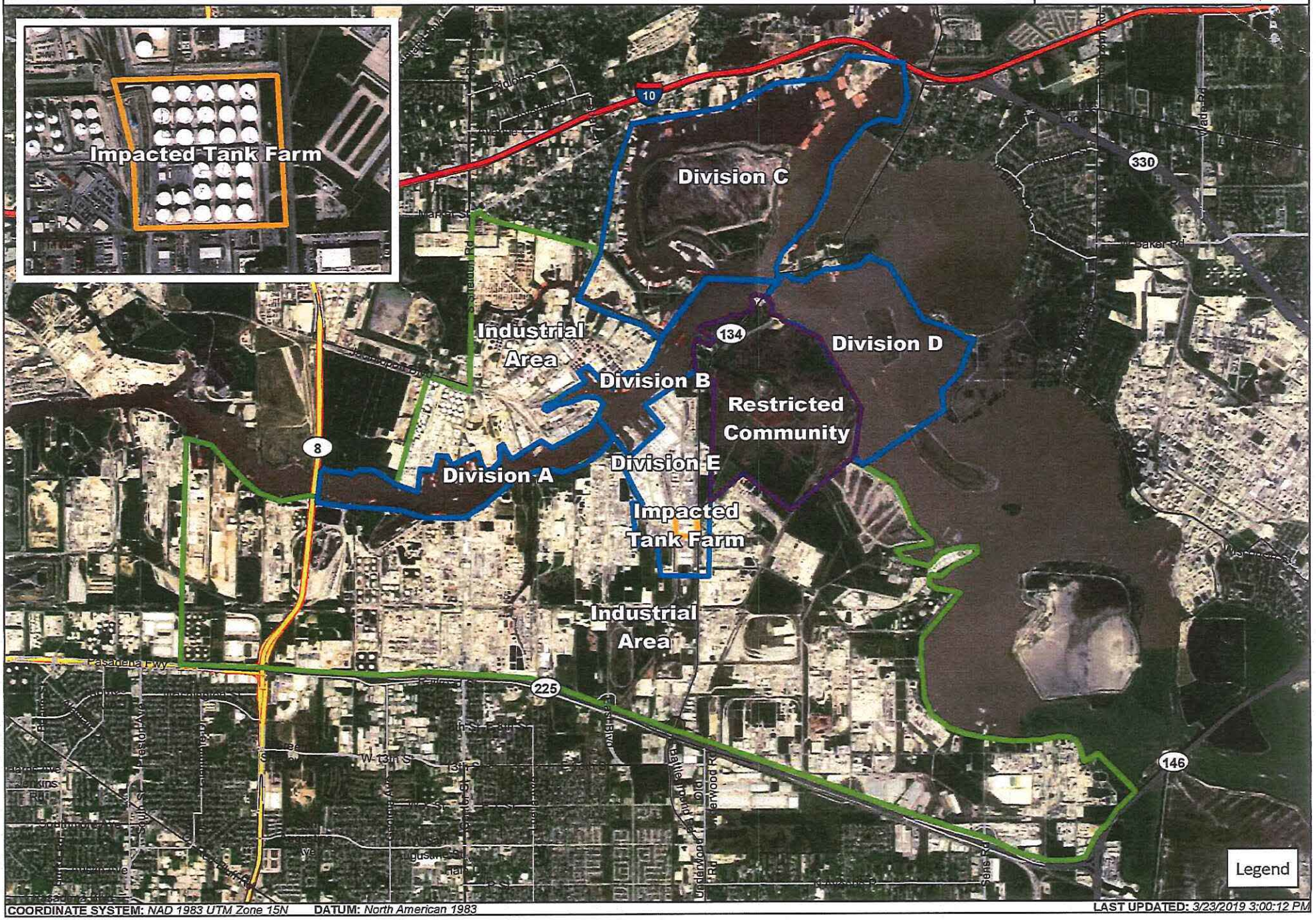
Attachment 1

CTEH

ITC Fire Location Categories

0 0.5 1 Miles

Project: 111356
Client: ITC
City: Pasadena, TX
County: Harris



COORDINATE SYSTEM: *NAD 1983 UTM Zone 15N* DATUM: *North American 1983*

LAST UPDATED: *3/23/2019 3:00:12 PM*

Attachment B

Fixed Real-Time Monitoring Locations

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Stationary Real-Time Monitoring Locations

ITC Tank Fire Deer Park, TX

0 0.075 0.15 Miles

Project:111356
Client: ITC
City: Deer Park, TX
County: Harris

COORDINATE SYSTEM: *NAD 1983 UTM Zone 15N* DATUM: *North American 1983*

LAST UPDATED: *6/8/2019 12:02:44 PM*

Attachment C

Signed Independence Parkway Reopening Plan

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2nd 80's Fire

Deer Park, Texas

Independence Parkway Reopening Plan

Version 1.0

Intercontinental Terminals Company – Deer Park

26, 4 April 2019 PZ, DPSC

	Name/Position	Signature	Date
Prepared By:	Mike Gaudet RP Rep	Via e-mail (see attachment)	4/26/2019
Approved By:	Brent Weber RPIC - ITC	Via e-mail (see attachment)	4/26/2019
Approved By:	Gary Moore FOSC - USEPA		4/26/2019
Approved By:	Carlton Porter SOSC - TCEQ		4/26/2019
Approved By:			
Approved By:			

Savannah Turner

From: Mike Gaudet <MGaudet@iterm.com>
Sent: Friday, April 26, 2019 2:49 PM
To: Savannah Turner
Subject: FW: 20190426_Independence Parkway ROP

From: Brent Weber
Sent: Friday, April 26, 2019 2:38 PM
To: Mike Gaudet; Moore, Gary; spill12@tceq.texas.gov; Wade, David (HCOHSEM) (David.Wade@oem.hctx.net); toby.kroeger@sheriff.hctx.net; Allen, Bob (PCS)
Cc: Maurice Wesley; matthew.kuryla@bakerbotts.com; ITC Incident
Subject: RE: 20190426_Independence Parkway ROP

I approve.

From: Mike Gaudet
Sent: Friday, April 26, 2019 1:57 PM
To: Moore, Gary; spill12@tceq.texas.gov; Brent Weber; Mike Gaudet; Wade, David (HCOHSEM) (David.Wade@oem.hctx.net); toby.kroeger@sheriff.hctx.net; Allen, Bob (PCS)
Cc: Maurice Wesley; matthew.kuryla@bakerbotts.com; ITC Incident
Subject: 20190426_Independence Parkway ROP

Here is the final draft. This draft includes input/comments from a just completed conference call between ITC and Harris County
representatives.

We would like to complete this today and open the road as soon as possible (either today or tomorrow).

Mike

Savannah Turner

From: Mike Gaudet <MGaudet@iterm.com>
Sent: Friday, April 26, 2019 2:59 PM
To: Savannah Turner
Subject: FW: 20190426_Independence Parkway ROP

From: Moore, Gary [mailto:Moore.Gary@epa.gov]
Sent: Friday, April 26, 2019 2:56 PM
To: Mike Gaudet; spill12@tceq.texas.gov; Brent Weber; Wade, David (HCOHSEM) (David.Wade@oem.hctx.net); toby.kroeger@sheriff.hctx.net; Allen, Bob (PCS)
Cc: Maurice Wesley; matthew.kuryla@bakerbotts.com; ITC Incident
Subject: RE: 20190426_Independence Parkway ROP

EPA has no objections.

From: Mike Gaudet <MGaudet@iterm.com>
Sent: Friday, April 26, 2019 1:57 PM
To: Moore, Gary <Moore.Gary@epa.gov>; spill12@tceq.texas.gov; Brent Weber <bweber@iterm.com>; Mike Gaudet <MGaudet@iterm.com>; Wade, David (HCOHSEM) (David.Wade@oem.hctx.net) <David.Wade@oem.hctx.net>; toby.kroeger@sheriff.hctx.net; Allen, Bob (PCS) <Bob.Allen@pcs.hctx.net>
Cc: Maurice Wesley <Mwesley@iterm.com>; matthew.kuryla@bakerbotts.com; ITC Incident <itcincident@iterm.com>
Subject: 20190426_Independence Parkway ROP

Here is the final draft. This draft includes input/comments from a just completed conference call between ITC and Harris County
representatives.

We would like to complete this today and open the road as soon as possible (either today or tomorrow).

Mike

Independence Parkway Reopening Plan 4/26/19

This plan has been developed to:

- Identify the factors that Harris County needs to evaluate to make a recommendation regarding the safety of the roadway and its opening to public passage
- identify the actions and/or alternatives necessary to determine if the Independence Parkway (IP) is safe to open for public traffic

Factors Considered:

- Atmospheric conditions
  - Ambient Benzene Concentrations
    - ITC/IC written approved plan regarding trigger's (atmospheric conditions) for reopening Independence Parkway to the public

- Physical conditions requiring remediation
  - Visually confirmed areas (staining, distressed vegetation, etc.)
  - Contamination confirmed above TRRP PCLs via lab analysis

Surface soil sampling will not take place when benzene concentrations are greater than the action level (0.5 ppm) determined by ITC/IC in the atmosphere. Should conditions change during a sampling event and benzene concentrations rise above the action level, sampling will cease and will resume when atmospheric conditions return to below the ITC/IC established action level for benzene.

As noted in the sampling plan (Attachment), samples will be collected and analyzed for the following:

- VOCs
- SVOCs
- TPH
- 8 RCRA Metals
- PFAS

Note: Analysis will be compared to the Texas Risk Reduction Program Tier 1 Commercial/Industrial Protective Concentration Levels (PCLs) for soils protective of dermal contact, inhalation, and ingestion exposure routes

Soil Contamination

Both visually and analytically confirmed surface soil impacted from the ITC fire will require barriers to be placed such that public access to those areas is restricted. The barriers will remain in place until all remediation in barriered areas has been completed (See below Barriers)

Air Monitoring

Air monitoring will be conducted on a continuous basis using handheld instruments (MultiRAE for VOC or UltraRAE with benzene specific colorimetric tubes). Other instruments may be used as needed, limited to those approved in the air monitoring and sampling plans. Monitoring personnel will roam through the north and south areas of IP, as well as near Tidal road.

The following air monitoring criteria will be followed regarding monitoring and road closures due to benzene and atmospheric conditions:

<u>VOC/benzene concentrations remain < 1 ppm in atmosphere:</u>

- **Open IP no restrictions**

<u>VOC/benzene detection reported at or above 1 ppm and less than 2.5 ppm on IP:</u>

- Follow-up detection with benzene readings every 5-10 minutes for 1 hour using benzene specific monitor.
  - **Road closure** (See Road Closure Notifications) if 1-hr average on IP > 1 ppm
  - Continue to monitor benzene levels
    - If 15-minute average on IP is > 1.0 ppm, **allow controlled access to authorized persons with appropriate respiratory protection** (industry drivers who are medically cleared and fit tested to wear respirators)
    - If 1-hr average < 1.0 ppm, **open IP and continue monitoring**

<u>VOC/Benzene detection reported at or above 2.5 ppm on IP:</u>

- Collect at least 2 additional readings within 15-minute period using benzene specific monitor to confirm elevated benzene above 2.5 ppm
  - **Road closure** if 15-minute average on IP is > 2.5 ppm
  - Continue to monitor benzene levels
    - If 15-minute average on IP is > 1.0 ppm, **allow controlled access to authorized persons with appropriate respiratory protection** (industry drivers who are medically cleared and fit tested to wear respirators)
    - If 1-hr average < 1.0 ppm, **open IP and continue monitoring area where >2.5 ppm detection occurred for additional 1 hour.**

Road Closure Notifications:

- The on-duty officers positioned on IP parkway will be notified immediately via telephone or radio to initiate road closure and reopening.

- The following notifications shall be made via Level 3 E-Notify upon closure of IP and again upon reopening:
  - City of Deer Park
  - City of LaPorte
  - Industry Partners
  - EMERGE
  - HCOEM
  - HC Judge's Office
  - HCFMO
  - HCPH
  - HCPCS
  - HC Pct 2
  - HCSO

- The following notifications shall be made via telephone upon closure of IP and again upon reopening:
  - Monument Inn Restaurant
  - Texas Parks & Wildlife – San Jacinto State Park
  - Harris County Precinct 2, Ferry operations
  - Washburn Tunnel Operations

- The following notifications shall be made via email upon closure of IP and again upon reopening:
  - TCEQ (via spill12@tceq.texas.gov)

Air monitoring will be conducted continuously along IP for a minimum of 48 hours after the tanks are declared clean. The tanks will be considered clean when demolition has been completed and/or all free liquid/sludge has been removed from the tanks. Additional air monitoring will be implemented during the soil remediation phase as necessary to ensure ongoing safety.

Barrier Location

Barriers (chain linked fence, etc.) will be placed along the IP and any other roadways with visually confirmed impact from ITC. Additional barriers will be placed in areas where soil sampling analytical show an exceedance of a TRRP PCL. All barriers will remain in place until such time remediation has occurred and analytical indicates no TRRP PCL exceedances. The barrier locations for the visually confirmed locations will be marked via upside down marker paint the day sampling occurs. Should analytical show the need for additional barriers, those areas will be marked via the same upside-down marker paint.

Signage

Signage will be required and will be located on or near the barriers in clear view and will, at a minimum, include the following:

No Parking
No Stopping
No Standing
No Trespassing
Anytime

Law Enforcement

Until IP is opened with no restrictions, there will be a full-time law enforcement presence to ensure all restrictions are adhered to.

Attachment

INDEPENDENCE PARKWAY SAMPLING AND ANALYSIS PLAN rv2

Independence Parkway Assessment

To determine potential impact from the ITC fire along Independence Parkway, Tidal Road, and Vista Road, a maximum of 22 surface soil samples will be collected and analyzed. Two initial surface soil samples will be collected beside the roadway on the east and west side of Independence Parkway and south of Tidal Road near the ITC facility. One initial surface soil sample will be collected beside the roadway on the north side of Tidal Road and west of Independence Parkway. Two initial surface soil samples will be collected from beside the roadway on the east and west side of Independence Parkway and north of Tidal Road. These surface soil samples will be field screened for organic vapors using a photo-ionization detector (PID) or equivalent. Up to four additional surface soil samples will be collected from beside the roadway along Independence Parkway south of the two initial surface soil samples Up to seven additional surface soil samples will be collected from beside the roadway along Tidal Road west of the initial surface soil sample and up to Tucker Bayou. Up to four additional surface soil samples will be collected from the beside the roadway north of the two initial surface soil samples collected north of the Independence Parkway and Tidal Road intersect (see attached Surface Sample Location Map). These additional samples will be collected based upon diminishing organic vapor field screening readings. To establish background soil concentrations for this area, one surface soil sample will be collected from beside the public roadway north of State Highway 225 (see Background Surface Sample Location Map). *Note: Due to the concrete lining of the roadway ditch south of Tidal Road just west of Independence Parkway, the two surface soil samples initially proposed from that area have been eliminated from this plan. Additionally, no surface soil samples will be collected from within the drainage ditches along the referenced roadways. If guardrails are present at the proposed sample locations, the samples will be collected from between the paved roadway surface and the guardrail if sufficient soil material is present. If guardrails are present and sufficient soil material between the roadway and the guardrail is absent, the surface soil sample will be collected from the backside of the guardrail.*

The samples will be submitted to the laboratory and analyzed for the COC list below:

- VOCs by EPA Method 5035/8260B;
- SVOCs by EPA Method 8270C;
- TPH by Texas Method 1005;
- RCRA 8 Metals by Methods 6010 and 7471;
- PFASs by EPA Method 537 or ASTM D7979

Duplicate samples will be collected at a ratio of one per every ten samples. To assist with the laboratory accuracy and precision and in accordance with EPA guidance, one matrix spike (MS)/ matrix spike duplicate (MSD) sample will be collected at a ratio of one to twenty samples.

All samples will be properly containerized in sterile laboratory provided containers and kept on ice in laboratory provided coolers until submitted for analysis. Surface soil samples will be

submitted for analysis to ALS Laboratories (ALS) in Houston, Texas with a "Rush" turnaround time (TAT).

In addition to the duplicate and MS/MSD soil samples, one aqueous field blank (FB) will be collected, one equipment blank (EB) will be collected at the end of each sampling day, and one trip blank will be provided for each cooler containing VOC, SVOC, and PFAS samples for storage and transportation.